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Diurnal Lepidoptera in the Nemrut Crater (East Turkey)

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Abstract: M.Kemal & A.Ö.Koçak, Diurnal Lepidoptera in the Nemrut Crater (East Turkey).

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In this article, totally 91 diurnal Lepidoptera collected in Nemrut Volcano in 2006 July and August are listed.

Key words: Diurnal Lepidoptera, Nemrut Volcano, Turkey, fauna.



Fig.1 -Nemrut Crater (13Gp) Turkey Bitlis Prov. Tatvan 2300m, 7 7 2006, M Kemal (Cesa)

Nemrut Volcano¹ is located at the southwestern shore of Lake Van, in the Province Bitlis. Its territory belongs to two districts, Tatvan and Ahlat (Fig.1). The summit is 3050m. high and its elliptic caldera has a diameter of from 7 to 8 km. The western part of the caldera contains a large coldwater lake about 155m. in depth. There is also

¹ The volcano is named after King Nimrod who ruled this area in B.C.

a small warm lake (Ilıkgöl), whose temperature reaches 60°C, providing clear evidence of continuing volcanic activity (Fig.2).

Mt. Nemrut is the most southern and youngest of the chain of volcanoes in eastern Anatolia. It is a strato type volcano, and began erupting during the fourth geological era and continued to be active until 1441 A.D. As a result of the volcanic eruptions of Mt. Nemrut, the single Van - Muş river basin was divided into two separate basins. The eruption of Nemrut volcano also led the formation of Lake Van, the largest lake in Turkey.



Fig. 2- Ilıkgöl, situated in the northern part of the caldera, 28 7 2006, M Kemal (Cesa)

Floristically Nemrut Volcano is considered rather poor. This is obviously due to man's interference with the natural arboreal vegetation, mainly by cutting and grazing. As a result of these, the eastern and southern slopes of the mountain have been replaced by an Irano-Turanian steppe vegetation, dominated mainly by cushion-formed, tragacanthic *Astragalus*, *Acantholimon* species.² Various grass species (*Poaceae*) and *Prangos* are also common in this steppe vegetation. On the northern and western slopes, including Kirkor Mount, which is too steep for climbing, are predominantly covered by broad-leaved, deciduous woody vegetation. The leading species are *Betula pendula*, *Populus tremula*, *Acer platanoides*, *Sorbus umbellata*, *S.tamamschjanae*, *S.torminalis*. Sporadically *Juniperus communis* ssp. *nana* occupies the slopes at an altitude of 2300-2700m. Deciduous woody vegetation occurs also in the central parts of the crater, near to Büyükgöl, at an altitude of 2300m. *Quercus pedunculifolia*, *Q. infectoria*, and *Q. pinnatifolia* sporadically distributed on the rocky slopes together with *Malus sylvestris*, *Pyrus eleagnifolia*, *P.syriaca*, *Cerasus mahaleb*, *Crataegus orientalis*, *C.tanacetifolia*, *C.aronia*, *C.monogyna*. On the Southern slopes a few remnant of *Juniperus excelsa* are present.

For the first time, the butterflies of Nemrut Mt. was collected by Kosswig in 1936. These materials were evaluated and published by De Lattin in 1944-1951³. Foreign collectors were also visited Nemrut several times between 1980-1988. The collected materials were published by Hesselbarth et al. (1995).⁴ There is no recent studies on, neither diurnal, nor nocturnal *Lepidoptera* fauna of this Mount. The material of the present study were collected by the authors in July and August of 2006. List of the species and the nomenclature are arranged in accordance to the

² Peşmen, 1973, A study on the flora of Nemrut Dağı (Bitlis). Proc. Int. Symposium Abies Equi-Trojani and Turk. Flora 1973: 271-287.

³ Lattin, G.de, 1944, Einige bemerkungswerte Lepidopteren-funde aus der Türkei. *Z.wien.EntVer.* 29: 74-78. - Lattin, G.de, 1950-1951, *Türkische Lepidopteren –I,II. Ist. Univ. Fen Fak. Mec.* (Ser B) 15 (4): 301-328; 16(1): 45-73, Pl.

⁴ Hesselbarth et al., 1995, *Die Tagfalter der Türkei*. 3 vols. Bochum.

recent publication by the authors.⁵ At present the Lepidoptera fauna of Nemrut Volcano has been studying by the authors as Cesa projects. In connection with, a documentary film have been preparing by the authors.⁶

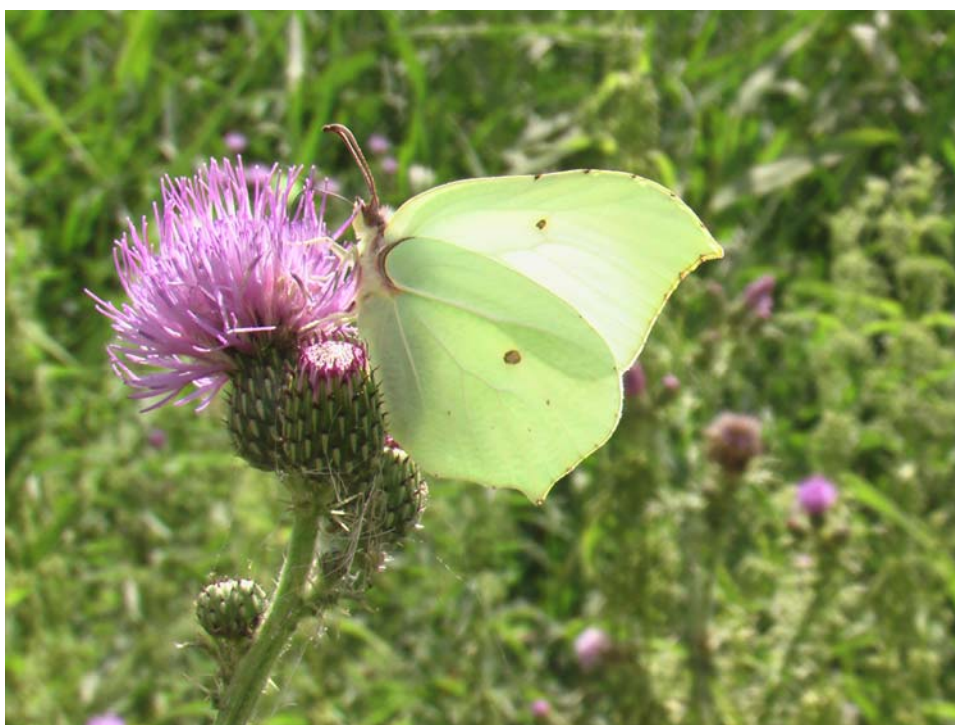


Fig.3. *Gonepteryx rhamni transiens* Vrtv. Tatvan, Nemrut Crater, 2260m 28 7 2006, M Kemal (Cesa)



Fig.4- *Papilio machaon syriacus* Pff. (4th instar larva) from Tatvan, Nemrut (13Gx), 2700m, 10 8 2006, M Kemal (Cesa)

⁵ Koçak, A.Ö. & M. Kemal, 2006, Checklist of the Lepidoptera of Turkey. Priamus Suppl. 1: 1-196.

⁶ Kemal, M., in preparation, Bir Dünya Mirası (A World Inheritance). A Documentary film in DVD format. Narrated in Turkish with English subtitle. Duration about 28 minutes (publication in October, 2006).

LIST OF THE SPECIES

PAPILIONIDAE

1. ***Papilio (s.str.) machaon Linnaeus,1758 (Fig. 4)** Synonyms: machaon Linnaeus,1758; reginae Retzius,1783; umbellatarum Fabricius,1807; aurantiaca Speyer,1858.

PIERIDAE

2. **Anthocharis damone Boisduval,1836** Synonym: damone Boisduval,1836
3. **Aporia (s.str.) crataegi (Linnaeus,1758)** Synonyms: crataegi Linnaeus,1758; nigronervosus Retzius,1783; minor Verity,1907; basanius Fruhstorfer,1910; crataegiaugusta Verity,1937.
4. ***Colias (Eriocolias) crocea (Fourcroy,1785)** Synonyms: crocea Fourcroy,1785; pyrenaica Groum-Grshimailo,1893.
5. **Colias (Neocolias) aurorina Herrich-Schäffer,[1850]** Synonym: aurorina Herrich-Schäffer,[1850]
6. **Colias (Neocolias) chlorocoma Christoph,1888** Synonym: chlorocoma Christoph,1888
7. **Gonepteryx (s.str.) farinosa (Zeller,1847)** Synonym: farinosa Zeller,1847
8. **Gonepteryx (s.str.) rhamni (Linnaeus,1758) (Fig. 3)** Synonyms: rhamni Linnaeus,1758; gravesi Huggins,1956.
9. **Leptidea sinapis (Linnaeus,1758)** Synonyms: sinapis Linnaeus,1758; candidus Retzius,1783; erysimi Borkhausen,1788; lathyri Hübnér,[1819]; loti Rennie,1832; umbratica Trimoulet,1858; sartha Rühl,1893; stabiarum Stauder,1914; nigrescens Verity,1919; patunae Stauder,1922; lathyricana Verity,1952.
10. **Pieris (Artogeia) ergane (Geyer,[1828])** Synonyms: ergane Geyer,[1828]; narcaea Freyer,[1828].
11. **Pieris (Artogeia) pseudorapae Verity,1908** Synonyms: pseudorapae Verity,1908
12. **Pieris (Artogeia) rapae (Linnaeus,1758)** Synonyms: rapae Linnaeus,1758; nelo Bergsträsser,1780; metra Stephens,1827; alpica Rossi,1929.
13. **Pieris (s.str.) brassicae (Linnaeus,1758)** Synonyms: brassicae Linnaeus,1758; chariclea Stephens,1827; #venata Verity,1908; cyniphia Turati,1924.
14. ***Pontia callidice (Hübner,[1800])** Synonyms: callidice Hübner,[1800]; callidice Esper,[1803].
15. ***Pontia chloridice (Hübner,[1813])** Synonyms: russiae Esper,[1784] nec russiae Esper,[1783]; chloridice Hübner,[1813];

- #aestuosa Staudinger,1901; albidice Staudinger,1901 nec Oberthür,1881.
16. **Pontia edusa (Fabricius,1777)** Synonyms: edusa Fabricius,1777; bellidice Ochsenheimer,1808; persica Bienert,1869; #nitida Verity,[1908].

ARGYNNIDAE (=Nymphalidae)

17. **Aglais urticae (Linnaeus,1758)** Synonyms: urticae Linnaeus,1758; opima Verity,1919; variegata Querci,1932; strandi Verity,1936.
18. **Argynnis (Fabriciana) niobe (Linnaeus,1758)** Synonym: niobe Linnaeus,1758.
19. **Argynnis (Pandoriana) pandora ([Denis & Schiffermüller],1775)** Synonyms: pandora [Denis & Schiffermüller],1775; maja Cramer,1775 nec Fabricius,1775; cynara Fabricius,1777; cyrnea Schwerda,1926; transcaucasica Moucha,1967; deserticola Gross & Ebert,1975.
20. **Brenthis daphne (Bergsträsser,1780)** Synonyms: daphne Bergsträsser,1780; chloris Esper,1778 nec Fabricius,1775; epidaphne Fruhstorfer,1907; nikator Fruhstorfer,1909; tenuitermaculosa Verity,1922; syriaca Belter,1935; anatolica Belter,1935.
21. **Cynthia cardui (Linnaeus,1758)** Synonyms: cardui Linnaeus,1758; carduelis Cramer,1775; elymi Rambur,1829; kershawi McCoy,1868; pallida Schoyen,1881; universa Verity,1919; takesakiana Kato,1925.
22. **Issoria lathonia (Linnaeus,1758)** Synonyms: lathonia Linnaeus,1758; saturata Röber,1897; hungarica Aigner-Abafi,1906; florens Verity,1916; emiflorens Verity,1919; attenuata Sagarra,1926; nigroprivata Verity,1933.
23. **Melitaea (Didymaeformis) didyma (Esper,[1779])** Synonyms: didyma Esper,[1779]; armoricana Oberthür,1909.
24. **Melitaea (Didymaeformis) fascelis (Fabricius,1787)** Synonyms: #trivia Denis & Schiffermüller,1775; iphigenia Esper,1782 hom.; #fascelis Esper,1783 uninominal; fascelis Fabricius,1787; cleo Latreille,1803;
25. **Melitaea (Didymaeformis) persea Kollar,[1849]** Synonyms: persea Kollar,[1849]; caucasica Stgr.,1861; magnacasta, araratica Verity,1929; sargon Hemming,1932; tauricus Belter,1934; caasicicola Bryk,1940; hafiz, gina Higgins,1941; darius, pfeifferi, wernickei, elbursicola, safawides Gross & Ebert,1975.
26. **Melitaea (s.str.) cinxia (Linnaeus,1758)** Synonyms: cinxia Linnaeus,1758; abacus Retzius,1783; fulla Quensel,1791.
27. **Nymphalis polychloros (Linnaeus,1758)** Synonyms: polychloros Linnaeus,1758;

- testudo Esper,1781; pyrrhomelaena Hübner,1824; pyromelas Freyer,1834; fervida Standfuss,1896.
28. *Nymphalis xanthomelas* (Esper,[1781])
Synonyms: #xanthomelas [Denis & Schiffermüller],1775; xanthomelas Esper,[1781]
29. *Polygonia (Comma) egea* (Cramer,[1775])
Synonyms: egea Cramer,[1775] (junior homonym); vaualbum Esper,1780; l-album Esper,1789; triangulum Fabricius,1793; autumnalis Stefanelli,1873; #balucha Evans,1932; #pallida Evans,1932.
30. *Vanessa atalanta* (Linnaeus,1758)
Synonyms: atalanta Linnaeus,1758; amiralis Retzius,1783; #klemensiewicz Schille,1896; #klime Fischer,1896; italica Stichel,1900.
- SATYRIDAE**
31. **Arethusana arethusa* ([Denis & Schiffermüller],1775) Synonyms: arethusa [Denis & Schiffermüller],1775; erythia Hübner,1805; pontica Heyne,[1895]; sultana Wagner,1929; hakkarica Koçak,1975.
32. **Chazara (Neochazara) anthe* (Hoffmannsegg,1804) Synonyms: anthe Hoffmannsegg,1804; persephone Hübner,1805; anthe Ochsenheimer,1807.
33. **Chazara (s.str.) bischoffi* (Herrich-Schäffer,[1846]) Synonym: bischoffi Herrich-Schäffer,[1846]
34. *Chazara (s.str.) briseis* (Linnaeus,1764) Synonyms: briseis Linnaeus,1764; daedale Bergsträßer,1780; bataia Fruhstorfer,1909; interjecta Verity,1916; variabilis Varin,1958; pictonica Varin,1958.
35. **Coenonympha pamphilus* (Linnaeus,1758) Synonyms: pamphilus Linnaeus,1758; menalcas Poda,1761; nephele Hufnagel,1766; marginata Heyne,1894; orantia Fruhstorfer,1908; scota Verity,1911; infrarsa Verity,1926; juldusica Verity,1926; asiaemontium Verity,1926; euxina Verity,1926;
36. *Esperarge (s.str.) clymene* (Fabricius,1787) Synonyms: #climene Esper,[1783]; clymene Fabricius,1787; boroeas Latreille,1803; synclimene Hübner,[1819].
37. *Hipparchia (Neohipparchia) statilinus* (Hufnagel,1766) Synonyms: statilinus Hufnagel,1766; fauna Sulzer,1776 nec Drury,1773; allionia Fabricius,1781; actaea sensu Villers,1789; arachne Esper,1789 nec Denis & Schiff.,1775; allionii Hübner,1826, etc.
38. *Hyponephele (s.str.) lupina* (Costa,[1836]) Synonym: lupina Costa,[1836]
39. *Hyponephele (s.str.) lycaon* (Rottemburg,1775) Synonyms: lycaon Rottemburg,1775; #lycaon Kuhn,1774; eudora Esper,1778; janirula Esper,1800.
40. **Lasiommata maera* (Linnaeus,1758) Synonyms: maera Linnaeus,1758; pandion Poda,1761; hiera Fab.,1777; maja Fuchs,1873; monotonia Schilde,1885; crimea Bang-Haas,1907; atabryris Fruhstorfer,1909.
41. *Lasiommata megera* (Linnaeus,1767) Synonyms: megera Linnaeus,1767; caledonia Verity,1911; alticola Verity,1911; pseudoadrasta Stauder,1922; infrapallens Verity,1922; ocellator Verity,1923; pallidedepulverata Verity,1923.
42. *Melanargia (Parce) russiae* (Esper,[1784]) Synonyms: russiae Esper,[1784]; suwarovius Herbst,1796; clotho Hübner,[1800].
43. **Melanargia (Turcargia) hylata* (Ménétries,1832) Synonym: hylata Ménétries,1832
44. **Melanargia (Turcargia) larissa* (Geyer,[1828]) (Figs.9,10) Synonym: larissa Geyer,[1828].
45. *Proterebia afra* (Fabricius,1787) Synonym: afra Fabricius,1787
46. *Pseudochazara (s.str.) beroe* (Freyer,[1843]) Synonym: beroe Freyer,[1843]
47. **Pseudochazara (s.str.) geyeri* (Herrich-Schäffer,[1846]) Synonyms: geyeri Herrich-Schäffer,[1846]; aristonicus Fruhstorfer,[1911]; selim Gross,1978, karsicola Gross,1978
48. *Pseudochazara (s.str.) pelopea* (Klug,1832) Synonym: pelopea Klug,1832
49. *Satyrus (Asatyrus (s.str.)) iranica* Schwingenschuss,1939 Synonyms: iranica Schwingenschuss,1939; kyros Gross & Ebert,1975.
50. *Satyrus (s.str.(s.str.)) favonius* Staudinger,[1892] Synonym: favonius Staudinger,[1892]
- LYCAENIDAE**
51. *Cupido (s.str.) osiris* (Meigen,[1829]) Synonyms: osiris Meigen,[1829]; saportae Duponchel,1832; violacea Verity,1911; sebrus Boisduval,[1833].
52. *Heodes (Loweia) tityrus* (Poda,1761) Synonyms: tityrus Poda,1761; acrion [Brünnich],1763; orientalis Staudinger,1881; argentifex Balint,1990.
53. *Lampides boeticus* (Linnaeus,1767) Synonyms: boeticus Linnaeus,1767; damoetes Fabricius,1775; coluteae Fuessly,1775; pisorum Fourcroy,1785; boedicus Borkhausen,1788; #baeticus Latreille,1809; armeniensis Gerhard,1886; bagus Distant,1886
54. *Lycaena (s.str.) phlaeas* (Linnaeus,1761) Synonyms: phlaeas Linnaeus,1761; virgaureae Fourcroy,1785 nec Linnaeus,1758; eleus

- Fabricius,1798; aestivus Zeller,1850; schmidtii Gerhard,1853
55. *Plebejus (Kretania) carmon* (Gerhard,[1851]) Synonyms: carmon Gerhard,[1851, November]; eurypilus Freyer,[1851,December].
56. *Plebejus (Lycaeides) idas* (Linnaeus,1761) Synonyms: idas Linnaeus,1761; leodorus Esper,1782; acreon Fabricius,1787; amphion Fabricius,1793.
57. *Plebejus (Plebejides) zephyrinus* (Christoph,1884) Synonym: zephyrinus Christoph,1884
58. *Plebejus (s.str.) argus* (Linnaeus,1758) Synonyms: argus Linnaeus,1758; aegon Denis & Schiffermüller,1775; plouharnelensis Oberthür,1926; pulchraphilonome Verity,1931.
59. *Polyommatus (Agriades (s.str.)) pyrenaicus* (Boisduval,1840) Synonyms: pyrenaicus Boisduval,1840; #pyrenicus Naderi,2003
60. *Polyommatus (Albulina (Plebejidea)) loewii* (Zeller,1847) Synonyms: loewii Zeller,1847; empyrea Gerhard,[1851]; gigas Staudinger,1871; #robusta Turati & Fiori,1930; germanicae Pfeiffer,1932; dzhegamati Sheljuzhko,1934.
61. **Polyommatus (Albulina (Vacciniina)) alcedo* (Christoph,1877) (Figs. 5, 6) Synonym: alcedo Christoph,1877
62. *Polyommatus (Aricia (s.str.)) agestis* ([Denis & Schiffermüller],1775) Synonyms: medon Hufnagel,1766 nec Linn.,1763; alexis Rottemburg,1775 nec Poda,1761; agestis [Denis & Schiffermüller],1775; astrarche Bergsträßer,[1779].
63. *Polyommatus (s.str. (Agrodiaetus (Admetusia))) alcestis* (Zerny,1932) Synonyms: alcestis Zerny,1932; ahmadi Carbonell,2001; karacetinae Lukhtanov & Dantchenko,2002.
64. **Polyommatus (s.str. (Agrodiaetus (Admetusia))) demavendi* (Pfeiffer,1938) Synonyms: demavendi Pfeiffer,1938; #demavendi de Lesse,1960
65. **Polyommatus (s.str. (Agrodiaetus (Antidolus))) menalcas* (Freyer,[1837]) (Figs. 7, 8). Synonyms: menalcas Freyer,[1837]; epidolus Boisduval,1840; #amasina Neuburger,1900.
66. *Polyommatus (s.str. (Agrodiaetus (Musa))) wagneri* (Forster,1956) Synonyms: wagneri Forster,1956
67. *Polyommatus (s.str. (Agrodiaetus (Phyllisia))) iphigenia* (Herrich-Schäffer,[1847]) Synonym: iphigenia Herrich-Schäffer,[1847]
68. *Polyommatus (s.str. (Agrodiaetus (Transcaspicus))) ninae* (Forster,1956) Synonym: ninae Forster,1956
69. *Polyommatus (s.str. (Agrodiaetus (Transcaspicus))) turcicus* (Koçak,1977) Synonym: turcicus Koçak,1977
70. **Polyommatus (s.str. (Lysandra)) corydonius* (Herrich-Schäffer,[1852]) Synonym: corydonius Herrich-Schäffer,[1852]
71. **Polyommatus (s.str. (Meleageria)) daphnis* ([Denis & Schiffermüller],1775) Synonyms: daphnis [Denis & Schiffermüller],1775; endymion [Denis & Schiffermüller],1775 nec Fabricius,1775; meleager Esper,1778; dalmatina Wagner,1909.
72. *Polyommatus (s.str. (Sublysandra)) aedon* (Christoph,1877) Synonym: aedon Christoph,1877
73. *Polyommatus (s.str.) icarus* (Rottemburg,1775) Synonyms: argus Poda,1761 nec Linn.,1758; alexis Scopoli,1763 nec Pda,1761; thetis Esper,1777 nec Dru.,1773; icarus Rottemburg,1775; pampholyge Bergsträßer,1779; candybus Bergsträßer,1779; candiope Bergsträßer,1779; candaon Bergsträßer,1779; oceanus Bergsträßer,1779; etc.
74. *Satyrrium (Nordmannia) abdominalis* (Gerhard,[1850]) Synonyms: abdominalis Gerhard,[1850]; gerhardi Staudinger,[1895]; alboabdominalis Pfeiffer,1938; persica Riley,1939; #gerhardti Wiltshire,1943; elta Higgins,1964.
75. *Satyrrium (Nordmannia) armenum* (Rebel,1901) Synonym: armenum Rebel,1901
76. *Satyrrium (Nordmannia) zabni* Oorschot & Brink,1991 Synonyms: #zabni Higgins,1964; zabni Oorschot & Brink,1991.
77. *Thersamolycaena (Alciphronia) alciphron* (Rottemburg,1775) Synonyms: alciphron Rottemburg,1775; lampetie [Denis & Schiffermüller],1775; hiere Fabricius,1787.
78. *Turanana endymion* (Freyer,[1850]) Synonym: endymion Freyer,[1850]

HESPERIIDAE

79. **Carcharodus (Reverdinus) orientalis* Reverdin,1913 Synonyms: orientalis Reverdin,1913; centralanatolica Pfeiffer,1927; aestatis Verity,1928; postorientalis Verity,1928; maccabaeus Hemming,1932.
80. **Carcharodus (s.str.) alcaeae* (Esper,[1780]) Synonyms: alcaeae Esper,[1780]; malvae Hufnagel,1766 nec Linn.,1758; malvarum Hoffmannsegg,1804; magnaustalis Verity,1924; corsicus Picard,1948.
81. *Erynnis (Hesperopegasus) marloyi* (Boisduval,[1834]) Synonyms: marloyi Boisduval,[1834]; sericea Freyer,1838; rustan Kollar,[1849].
82. **Erynnis (s.str.) tages* (Linnaeus,1758) Synonyms: tages Linnaeus,1758; morio Scopoli,1763; geryon Rottemburg,1775; subclarus Verity,1921.

83. **Hesperia comma* (Linnaeus,1758)
Synonyms: comma Linnaeus,1758; virgula Retzius,1783; alpina Bath,1896; galliaemeridiei Verity,1928; alpapennina Verity,1928; alpiumflava Verity,1928; macrocomma Verity,1928; superalpina Verity,1928; atralpina Verity,1928.
84. *Pyrgus cirsii* (Rambur,[1839]) Synonyms: cirsii Rambur,[1839]; turcivola De Lattin,1950.
85. *Pyrgus sidae* (Esper,[1784]) Synonym: sidae Esper,[1784]
86. *Spialia (s.str.) osthelderi* (Pfeiffer,1932)
Synonym: osthelderi Pfeiffer,1932
87. *Thymelicus sylvestris* (Poda,1761)
Synonyms: sylvestris Poda,1761; flava Brännich,1763; linea Müller,1764; thaumas Hufnagel,1766; divaricatus Fourcroy,1785; venula Hübner,[1813]; obscura Verity,1905
88. **Eugnosta magnificana* (Rebel,1914)
Synonyms: margaritana Hübner,[1813] nec Haw.,[1811]; ? norvichiana Hübner,[1817] [nomina dubia!]; magnificana Rebel,1914.

GEOMETRIDAE

89. **Aplocera columbata* (Metzner,1845)
Synonyms: columbata Metzner,1845; nomadaria Herrich-Schäffer,1848

NOCTUIDAE

90. **Eublemma (pallidula-gr.) pallidula* (Herrich-Schäffer,1856) Synonym: pallidula Herrich-Schäffer,1856
91. **Eublemma pannonica* (Freyer,1840)
Synonym: panonica Freyer,1840; kindermannii Boisdual,1840.

TORTRICIDAE

* indicates new record to Nemrut fauna.



Fig.5 -Lycaenidae Plebejus (Vacciniina) alcedo upperside of male Turkey Bitlis Prov Tatvan, Nemrut Mt, 2630m, 28 7 2006 M Kemal leg & photo (Cesa)



Fig. 6 -Lycaenidae Plebejus (Vacciniina) alcedo underside of male Turkey Bitlis Prov Tatvan, Nemrut Mt, 2630m, 28 7 2006 M Kemal leg & photo (Cesa)



Fig. 7 Lycaenidae Polyommatus (Agrodiaetus) menalcas upperside of male Turkey Bitlis Prov Tatvan, Nemrut Mt, Ilıkgöl 2280m, 28 7 2006 A Kocak leg & photo (Cesa)



Fig. 8 Lycaenidae Polyommatus (Agrodiaetus) menalcas underside of male Turkey Bitlis Prov Tatvan, Nemrut Mt, Ilıkgöl 2280m, 28 7 2006 A Kocak leg & photo (Cesa)



Fig. 9 Satyridae Melanargia (Turcargia) larissa astanda upperside of male Turkey Bitlis Prov Tatvan, Nemrut Mt, 2630m, 28 7 2006 M Kemal leg & photo (Cesa)



Fig.10 Satyridae Melanargia (Turcargia) larissa astanda underside of male Turkey Bitlis Prov Tatvan, Nemrut Mt, 2630m, 28 7 2006 M Kemal leg & photo (Cesa)

Contents / İçindekiler: M.Kemal & A.Ö.Koçak, Diurnal Lepidoptera in the Nemrut Crater (East Turkey). p.1 - Editorial, p. 8.

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